SAFETY DATA SHEET

This SDS adheres to the standards and regulatory requirements of Canada and may not meet the regulatory requirements in other countries.

1. Identification

Product identifier	**Endimal™ 500**
Other means of identification	Material Number: 57951254
Recommended use	Generation of chlorine dioxide for use as an oxidant. Bleaching of textiles and other fibers.
Recommended restrictions	None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name	International Dioxcide, Inc. an ERCO Worldwide Company
Address	ERCO Worldwide 5050 Satellite Drive Mississauga ON, L4W 0G1 Canada
Telephone	(416) 239-7111 (M- F: 8:00 am – 5:00pm EST)
Website	https://idiclo2.com
E-mail	idiclo2@ercoworldwide.com
Emergency phone number	Canada & U.S.A.: (800) 424 9300 (CHEMTREC) International**:** (703) 527 3887
Supplier	Refer to Manufacturer

2. Hazard(s) Identification

Physical hazards None

Health hazards	Acute toxicity, oral	Category 4
	Skin irritation	Category 2
	Eye irritation	Category 2B
	Specific target organ toxicity, repeated exposure (blood, kidneys, liver, spleen)	Category 2

Environmental hazards Not currently regulated by the Canadian Hazardous Products Regulation (WHMIS 2015), refer to Section 12 for additional information.

Label elements

Signal word Warning

Hazard statement	Harmful if swallowed. Causes skin and eye irritation. May cause damage to organs through prolonged or repeated exposure (blood, kidneys, liver, spleen).
Precautionary statement	
Prevention	Wear protective gloves. Do not breathe vapor. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.
Response	**IF SWALLOWED:** Call a POISON CENTER or doctor if you feel unwell. Rinse mouth. **IF ON SKIN:** Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical attention. **IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention. **IF** exposed or concerned: Call a POISON CENTER or doctor.
Storage	Not applicable
Disposal	Dispose of contents and container in accordance with all local, regional, national and international regulations.
Hazard(s) not otherwise classified (HNOC)	If Sodium Chlorite dries on some types of fire-retardant clothing it is known to cause an exothermic reaction. The reaction has been known to cause burns to skin. Nomex appears to be the only material not to experience this reaction.
Supplemental information	Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials and food and drink.

3. Composition/Information on Ingredients

Chemical name	Common name and synonyms	CAS number	Conc. % By Weight
Sodium Chlorite	None	7758-19-2	≤10 w/w%

Chemical name of impurities, stabilizing solvents and/or additives: None

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.

4. First-Aid Measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention following exposure or if feeling unwell. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. If not breathing, if breathing is irregular or respiratory arrest occurs, provide artificial respiration, or oxygen by a trained professional, using a pocket type respirator.
Skin Contact	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse. In case of contact, flush skin with plenty of water for at least 20 minutes.
Eye Contact	Check for and remove any contact lenses. Get medical attention. In case of contact, flush eyes with plenty of water for at least 20 minutes. Use fingers to ensure that eyelids are separated and that the eye is being irrigated.
Ingestion	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
Most important symptoms/effects, acute and delayed	Causes serious eye irritation. Adverse symptoms may include watering, redness, reddening, tearing, stinging, and swelling. Causes skin irritation with symptoms of reddening, itching, and swelling. Harmful if swallowed. Irritating to mouth, throat and stomach. Symptoms of ingestion may include abdominal pain, nausea, vomiting, and diarrhea. May cause damage to organs through prolonged or repeated exposure.
Indication of immediate medical attention and special treatment needed	Not available.
General information	Notes to physician: Treat symptomatically. No specific treatment.

5. Fire-Fighting Measures

Suitable extinguishing media	Use an extinguishing agent suitable for the surrounding fire. In case of fire, use water spray (fog), foam or dry chemical.

Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	In a fire or if heated, a pressure increase will occur and the container may burst.
Special protective equipment and precautions for firefighters	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. If Sodium Chlorite dries on some types of fire-retardant clothing it is known to cause an exothermic reaction. The reaction has been known to cause burns to skin. Nomex appears to be the only material not to experience this reaction.
Firefighting equipment/instructions	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	May intensify fire; oxidizer when dry.
Hazardous combustion products	Decomposition products may include the following materials: halogenated compounds, metal oxide/oxides.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
Methods and materials for containment and cleaning up	Stop leak if without risk. Move containers from spill area. Approach release from upwind. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal. Prevent entry into sewers, water courses, basements or confined areas.

Environmental precautions	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

7. Handling and Storage

Precautions for safe handling	Do not breathe vapor or mist. Do not ingest. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container. Remove contaminated clothing and protective equipment before entering eating areas. Workers should wash hands and face before eating, drinking and smoking. Put on appropriate personal protection equipment. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed.
Conditions for safe storage, including any incompatibilities	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. Empty containers retain product residue and can be hazardous. Do not reuse container

8. Exposure Controls/ Personal Protection

Occupational exposure limits	No exposure limits noted for ingredient(s).
Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Individual protection measures, such as personal protective equipment:

Eye/face protection	Chemical splash goggles.
Skin protection	
Hand protection	Permeation resistant gloves.
Other	Permeation resistant clothing and foot protection.

If Sodium Chlorite dries on some types of fire-retardant clothing it is known to cause an exothermic reaction. The reaction has been known to cause burns to skin. Nomex appears to be the only material not to experience this reaction.

Respiratory protection Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. A NIOSH approved air purifying respirator with organic vapor cartridges and particulate prefilter can be used to minimize exposure.

Thermal Hazards If Sodium Chlorite dries on some types of fire-retardant clothing it is known to cause an exothermic reaction. The reaction has been known to cause burns to skin. Nomex appears to be the only material not to experience this reaction.

General hygiene considerations Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

9. Physical and Chemical Properties

Appearance	
Physical state	Liquid
Form	Liquid
Colour	Light yellow
Odor	Chlorine (Slight)
Odor threshold	Not available
Molecular formula	Not available
Molecular weight	Not available
pH	9 to 9.2
Melting point/Freezing point	105 °C (1013 hPa)
Initial boiling point and boiling range	Closed cup: >100°C (>212°F)
Flash point	Not applicable
Evaporation rate	Not available
Flammability (solid, gas)	Not available
Upper/lower flammability or explosive limits	
Flammability limit – lower (%)	Not applicable
Flammability limit – upper (%)	Not applicable
Explosive limit – lower (%)	Not available
Explosive limit – upper (%)	Not available
Vapor pressure	19.87 hPa (20°C)
Vapor density	Not available
Relative density	Not available
Solubility (ies)	
Solubility (water)	Easily soluble in cold water
Partition coefficient (n-octanol/water)	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available

Viscosity	Dynamic: 3.26 mPa·s
Other information	
Density	1.065 to 1.095 g/cm³
Flammability	Not available
Specific gravity	Not available
Surface tension	Not available

10. Stability and Reactivity

Reactivity	No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	The product is stable.
Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to Avoid	No specific data.
Incompatible materials	No specific data.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. Toxicological Information

Information on likely routes of exposure

Inhalation	No known significant effects or critical hazards
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye irritation.
Ingestion	Harmful if swallowed. Irritating to mouth, throat and stomach.

Delayed and immediate effects and chronic effects from short-term and long-term exposure

Effects of short-term (acute) exposure:	Causes serious eye irritation. Adverse symptoms may include watering, redness, reddening, tearing, stinging, and swelling. Causes skin irritation with symptoms of reddening, itching, and swelling. Harmful if swallowed. Irritating to mouth, throat and stomach. Symptoms of ingestion may include abdominal pain, nausea, vomiting, and diarrhea.
Effects of long-term (chronic) exposure:	May cause damage to organs through prolonged or repeated exposure.

Information on toxicological effects

Acute toxicity

Product	Species	Test Results
Endimal™ 500		
Acute		
LD50 Oral	Rat	1075 mg/kg (Test results for a product at higher concentration)
LD50 Dermal	Rat	>2000 mg/kg (Test results for a product at higher concentration)
LD50 Inhalation (dusts and mists)	Rat	>6.53 mg/l over a 4-hour exposure (Test results for a product at higher concentration)

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Moderate irritant (Test results for a product at higher concentration)

Serious eye damage/eye irritation Mild irritant (Test results for a product at higher concentration)

Respiratory or skin sensitization

Respiratory sensitization Not sensitizing.

Skin sensitizer Not sensitizing.

Germ cell mutagenicity Not mutagenic in a standard battery of genetic toxicological tests. Did not show carcinogenic or mutagenic effects in animal experiments.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity	Sodium Chlorite (CAS 7758-19-2) Not classifiable as to carcinogenicity to humans.
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)	Not listed.
Reproductive toxicity	Not classified as a reproductive toxin.
Specific target organ toxicity - single exposure	Not classified as a specific target organ toxicity - single exposure.
Specific target organ toxicity - repeated exposure	Specific Target Organ Toxicity (STOT), Repeated Exposure: blood, kidneys, liver, spleen.
Aspiration toxicity	Not expected to be an aspiration hazard.
Chronic effects	Chronic skin contact with low concentrations may cause dermatitis. Prolonged or repeated overexposure may cause blood, liver, spleen and kidney effects.

12. Ecological Information

Ecotoxicity Toxic to aquatic life. In water and soil, sodium chlorite will eventually degrade to sodium chloride.

Components		Species	Test Results
Sodium Chlorite (CAS 7758-19-2)			
Aquatic			
Acute			
Algae	EC_{50}	Green algae (Selenastrum capricornutum)	1.2 mg/l
Crustacea	EC_{50}	Water flea (Daphnia)	0.025 mg/l
Fish	LC_{50}	Sheepshead minnow (Cyprinodon variegatus)	110 mg/l
Chronic			
Algae	EC_{50}	Green algae (Selenastrum capricornutum)	1 mg/l

Persistence and degradability Biodegradation is not applicable to inorganic substances.

Bio accumulative potential	The product itself has not been tested.
Mobility in soil	In soil, will degrade to sodium chloride but may form chlorine dioxide in contact with acidic soils. Chlorate is an intermediate product of decomposition; it will slowly degrade to chloride.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal Considerations

Disposal instructions	The generation of waste should be avoided or minimized wherever possible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Waste disposal should be in accordance with existing federal state, provincial and or local environmental controls laws.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport Information

DOT	Not regulated.
IATA	Not regulated.
IMDG	Not regulated.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not available.

General information	None

15. Regulatory Information

Country(s) or region	Inventory name	On inventory (yes/no) *
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s).
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16.Other Information

Issue date	3/31/2022
Revision #	6
Revision Indicator	Clarified precautionary statements, added FR clothing precaution and updated address.
List of abbreviations	ACGIH: American Conference of Governmental Industrial Hygienists CAS: Chemical Abstract Services CFR: Code of Federal Regulations DSL: Domestic Substance List EINECS: European Inventory of Existing Commercial chemical Substances EPA: Environmental Protection Agency HSDB® - Hazardous Substances Data Bank

IARC: International Agency for Research on Cancer
IATA: International Air Transport Association
IBC: Intermediate Bulk Container
IMDG: International Maritime Dangerous Goods LC: Lethal Concentration
LD: Lethal Dose
NIOSH: National Institute of Occupational Safety and Health
NTP: National Toxicology Program
OECD: Organization for Economic Cooperation and Development
OSHA: Occupational Safety and Health Administration
PPE: Personal Protective Equipment
RTECS: Registry of Toxic Effects of Chemical Substances
SDS: Safety Data Sheet
TWA: Time Weighted Average
WHMIS: Workplace Hazardous Materials Information System

References

Canadian Centre for Occupational Health and Safety, CCInfoWeb Databases, 2014 (Chempendium, RTECs, HSDB, INCHEM).
European Chemicals Agency, Classification Legislation, 2014.
Material Safety Data Sheet from manufacturer.
OECD - The Global Portal to Information on Chemical Substances - eChemPortal, 2014.

Disclaimer

Information presented in this SDS is furnished in accordance with the Workplace Hazardous Materials Information System (WHMIS).

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